

Notes on *Proterhinus* (Coleoptera)

BY DR. R. C. L. PERKINS

(Presented by title by O. H. Swezey at the meeting of December 1, 1927)

In this paper I have enumerated a large number of specimens of *Proterhinus*, sent to me for examination by Mr. O. H. Swezey, by whom many of them were collected. The material here dealt with is from Oahu and Maui only, but some specimens from these Islands are still left for future consideration. These include *P. blackburni* Sh. with its varieties, races, or closely allied species and also *P. longulus* Sh. and closely allied forms. Until still more extensive series of these are collected from more numerous stations on all the Islands I do not think any satisfactory conclusion as to the importance or value of the different forms can be reached. In any case the specimens already collected, with special notes of the food plants and full data by Mr. Swezey and others, are a considerable help in this direction.

It may be noted that in some cases where I have assigned specimens to a species described by Dr. Sharp, I have stated that they are identical with specimens which I considered referable to such species, when I wrote the descriptions of *Proterhinus* for the Fauna Hawaiiane in 1898, these being published later after my return to Honolulu. I have not, however, seen the actual types of Sharp's species since that time, as they were not accessible when I described supplementary species for that work in 1907, and on two recent occasions these types were not to be found in the British Museum, where they belong, and some doubt existed as to whether they had ever been received there. I find it necessary to refer to this matter because, in my earliest paper on the genus, I sometimes referred to previously described species, specimens of my own catching, which differed more or less considerably from the actual types and possibly did not belong to the same species as these. At that time Dr. Sharp himself informed me that finally he was obliged to give up describing material sent to him by Blackburn since he was unable to decide whether the specimens sent later were distinct species or varieties of those he

had already described. My own doubts and difficulties in so difficult a study were naturally very great, since I was then a mere beginner at the study of Coleoptera, and, until I have again examined the types, I cannot feel at all certain that I have correctly interpreted all of Sharp's species.

A. SPECIES FOUND ON OAHU.

***Proterhinus swezeyi* Perkins.**

Of this species, originally described from a single specimen, I have now examined nine additional examples, the smallest of which are only about half the size of the largest (length 3-5 mm.). Naturally, therefore, it varies in other characters and the conical production backwards of the eyes is not or hardly visible in one specimen. The transverse ridge formed by the constriction of the head behind the eyes is usually absent or indistinct in the middle, but in some specimens there is not much difference between the species and *deinops* in this respect. The sculpture of the rostrum and its form, as well as the long second antennal joint and other characters, show that this species should be placed in the group of *blackburni* Sh. Of the nine specimens now examined, three, all large, were found on Mt. Kaala on *Broussaïsia*, 14. viii. 27, and six at Kahana in the Koolau Range on the same plant, 4. ix. 27, these varying greatly in size. All these were captured by Mr. Swezey, who informs me that the capture of the original specimen on *Pritchardia* was no doubt accidental and that the species is certainly really attached to *Broussaïsia*.

***Proterhinus podagricus* Perkins var. *coprosmae* nov.**

A single ♂, not fully mature but in fine condition, is entirely red with darker spots noticeable on the elytra, so that I doubt whether the femora would ever have become dark or black as in typical *podagricus*. The antennae are entirely red, at most of a still paler shade basally. So far as I can see, this specimen differs chiefly from the typical form in the conspicuously less dilated hind femora. Such specimens of *podagricus* as I am now able to examine are themselves variable, and were collected indiscriminately, without note of food plants, so it is quite possible that *kamptarthrus* and *podagricus* are representatives of a group of species, subspecies or races, which differ in habits and in some points of structure. Thus in my *podagricus* I detect differences in the antennae, and in one ♂ the scape is unusually long and comparatively slender, like that of a ♀ but whether these differences are mere casual aberrations or of more importance is at present uncertain. This var. *coprosmae* might be equally well referred to *kamptarthrus* as a variety, as it appears to me.

Hab.—Oahu, Mt. Kaala, 11.i.20. A single specimen on *Coprosma* (Swezey).

***Proterhinus coprosmicola* sp. nov.**

In general appearance this species resembles *P. ruficornis*, *euphorbiae* and the red forms of *vestitus*, etc., the elytra at least, or even the whole insect, being red, the head and thorax as well as the femora being no doubt often more or less dark or suffused in old specimens, the elytra with some dark spots. The antennae are of moderate length and entirely red, the ninth joint distinctly less wide, but subequal in length to the tenth, the basal joint stout and very setose, not differing much in the sexes. The eyes are prominent, but decidedly small for the size of the insect. The clothing gives the pronotum a somewhat rough appearance, but is not dense, nor does it form any conspicuous maculations; the surface is slightly depressed along the middle and the pair of round impressions are distinct. The elytra are nearly parallel-sided on their basal two-thirds, with golden, or in old specimens greyish, appressed clothing, and with conspicuous erect, white (or very pale) setae, the humeral angles very distinct and appearing more or less sharp, though not much produced; the basal tubercles on either side of the scutellum are distinct. The basal abdominal segment beneath is coarsely punctured. The antennal club is less developed than that of *ruficornis* and the eyes are smaller, the elytra are less narrow and elongate than in *euphorbiae* and the hind angles of the pronotum are not distinct as in *vestitus*.

Hab.—Oahu, Pacific Heights, 1600 ft. on *Coprosma* (Bridwell) four examples, three very fresh or immature, one being headless and one older specimen covered with excretion and with the legs partly wanting.

***Proterhinus vestitus* Sharp.**

Six examples of this polyphagous species are very red in color or immature in appearance. They were collected on the 'Arboretum Trail,' 3. x .26 by Swezey from *Bobea*, not, I think, a common food-plant of this species; I had once a series of similarly red-colored specimens from *Pipturus*, though usually this tree produces darker varieties. Eight specimens from Nuuanu Pali, 28. vi. 17, on 'Ti,' a well-known food plant of the species, collected by Bridwell, are typical in color.

***Proterhinus angularis* Sharp.**

Eight examples collected by E. H. Bryan, Jr., in Palolo, 28. ii. 1920, I refer to the above species, though some at least of the specimens are hardly typical. Seven from Manoa, 14. vi. 23 (Swezey) like the above are not thoroughly typical. The species is confined to *Straussia*, on which all these specimens were taken,

and I believe it occurs only in the mountains within a few miles of Honolulu, especially in Palolo and neighboring valleys or in parts adjoining these valleys.

***Proterhinus subangularis* Perkins.**

A single female from Kaala, 14. viii. 27 (Swezey) has the elytra unusually wide, but is best referred to this form, which is not infrequent in the Waianae Mountains. It was found on *Broussaisia*, but no doubt accidentally, since it breeds always on *Straussia*.

***Proterhinus obscuricolor* Perkins.**

Four specimens taken from *Pelea* on the Woodlawn Trail, 1. v. 27 and one from Tantalus, 21. v. 25 (Swezey) are clearly the minute form which I considered (F. H. III, p. 660) to be a variety of the above-named species. Comparatively well-developed examples of *obscuricolor*, similar to individuals obtained from *Straussia*, are sometimes found with these small specimens on *Pelea*. Three examples, two from Kaumuahona (Bridwell and Bryan) largely abraded and one from Palolo in bad condition (Bridwell) appear to be the larger sized *obscuricolor*.

***Proterhinus oxygozias* Perkins.**

A single female, Kuliouou, 5. iii. 20 (Swezey) without further data, agrees well with specimens I have named as above. It approaches very closely to some varieties of *excrucians* on the one hand, and to *heterostictus* on the other.

***Proterhinus impressiscutis* Perkins.**

Originally described from a single female from Mt. Kaala, but I referred to specimens covered with exudation in my collection as probably belonging to this species. One of these when cleaned proved to be a very good specimen of the ♂, which except for the sexual characters resembles the ♀. I have now received another ♀ from Kaala, 18. ii. 23, on *Euphorbia* (Swezey).

***Proterhinus impressiscutis* var. *nudior* nov.**

Four specimens from Lanihuli, near Honolulu, 24. xi. 18, and one dated 19. x. 19, together with two from Kuliouou, 22. xii. 18, all collected on *Euphorbia* by Swezey belong to a distinct race or variety. The elytra are without the short erect setae, which, though sparse, are very noticeable on the apical part and around the margins in the typical form. In the ♂ the impression around the scutellar region is short, but in the ♀ forms a very elongate triangle extending back along the suture.

***Proterhinus euphorbiae* Perkins.**

Two females very fresh or perhaps not fully mature, as in one the dark spots on the elytra have not appeared and the antennae are very pale throughout. Otherwise they resemble the original examples of this little-known species. Both were taken from *Euphorbia* on Lanihuli, 24. xi. 18, by Swezey.

***Proterhinus squamicollis* Perkins var. *moestus* nov.**

Under this name I have long had a *Proterhinus* taken in the Koolau range near Honolulu without note of habits, but occurring at about 2000 ft. It differs from *squamicollis* in the absence of the distinct transverse constriction of the head behind the eyes and in less dense appressed clothing, especially of the pronotum. The antennae are black, at most with an obscure reddish tinge at the base; the legs also are very dark, with the tarsal lobes black or piceous. The elytra have the basal tubercles on either side of the scutellum very conspicuous from their dense white clothing, while they themselves appear blacker than in the typical form owing to the appressed clothing being less abundant.

On 11. vi. 24 Mr. Swezey obtained a single ♀ of this variety from dead *Pelea* at Lanipo, and, if this be the correct food-plant, the acquisition of material for a more complete study may be facilitated by this knowledge. Typical *squamicollis* was taken by me on several occasions from dead *Bobea* branches, and I have no record of any other tree producing it.

***Proterhinus platygonioides* Perkins.**

A female was taken on *Suttonia* at Kanehoa, Waianae Mountains, 16. i. 27 (Swezey) and this will probably prove to be the correct food-plant.

***Proterhinus obscurus* Sharp.**

The varieties of this polyphagous species are not as a rule very distinct or sharply defined and owing to the absence of any striking characters, some specimens are very difficult. Five examples on *Bobea* and three from *Elacocarpus* were taken by Swezey on Mt. Tantalus, and two from *Perrottetia*, 5. iv. 19 on the Cooke Trail.

Five from *Euphorbia*, 19. x. 19, one 24. ix. 18, and one 21. iv. 18, all on Lanihuli (Swezey); one on the same plant, Kaala, 18. ii. 23 (Swezey) and one on *Euphorbia clusiaefolia*, Kaumua-hona, 17. vi. 17 (Bridwell) all appear to belong to var. *chryseis*.

Proterhinus pusillus Sharp.

At the time when my first paper on *Proterhinus* was written I was not able to match Sharp's type of *pusillus* with any of my own specimens and since then I have not been able to re-examine the type. The specimens here referred to are similar to those I referred to *pusillus* Sh. Five examples from *Pelea*, Mt. Tantalus, 21. vi. 25 and a pair from the same tree in Manoa; 1 ♀ Moanalu, 8.ii.20, without note of food plant (Swezey).

Proterhinus oscillans Sharp.

This species, so far as I know, is confined to *Acacia koa* and only accidentally found on other trees. Palehua, Waianae Range, 7.v.22 (Swezey), three on koa in company with three others which might be a dark form of this or referable to a form of *P. deceptor*. One in Rooke Valley, 24. xi. 18 (Swezey).

Proterhinus deceptor Perkins.

Three on koa, 7.v.22, Palehua (Swezey) as referred to under the preceding species.

Proterhinus deceptor var. **clermontiae** nov.

Four examples taken from a *Clermontia* in Pauoa, July, 1917, (Bridwell) I refer to *deceptor* as a variety with much doubt. The specimens are probably not fully mature being ferruginous or rufescent all over; the middle of the pronotum and the elytra along the suture would probably be more or less dark in mature individuals. The clothing is golden, on the elytra to a large extent more silvery, as well as at the hind angles of the pronotum, where a dense pale spot is evident on each side. The antennae are red, in old specimens no doubt more or less dark apically. The structure in general hardly differs from that of some specimens of *deceptor*, *subdeceptor* and other allied species.

Proterhinus abnormis Perkins.

A large series was taken by Swezey at Punaluu, 20.ii.21, on *Broussaisia*. So much variation is shown that I think these specimens connect the Kaala specimens of true *abnormis* with those obtained in the mountains near Honolulu, which were considered distinct by me and named *phyllobius*. This leaf-mining species has, apart from the rostral character, a slightly peculiar facies, which I remember to have observed in casually collected, single examples captured on Molokai, Maui and Hawaii. It is probable therefore that *Proterhinus* with similar habits and closely allied to, but distinct from, the Oahu form will be found on these Islands.

Proterhinus maurus Perkins.

Four examples were taken by Mr. J. C. Bridwell in Palolo, 14.vi.17, on *Suttonia*, which, no doubt, is the true food-plant though the first specimen obtained I took on *Pelea* in the mountains near Waialua. The individuals vary much in size, but it is always a large species and usually very large for the genus.

B. SPECIES FOUND OF MAUI.

Proterhinus epichrysus Perkins.

Seventeen on *Rubus* from Olinda, 27.ii.26, and 1 ♀ on *Alyxia*, 14.vi.27 (Swezey) are similar to the original specimens from *Rubus*. *P. lanaiensis*, which I believe occurs also on Molokai, is excessively close to the above species, if not identical with it, but the specimens were not taken from *Rubus*.

Proterhinus humeralis Sharp.

A single specimen from *Rubus*, in company with the preceding, appears to be a rather broad example of *humeralis*, or at least identical with specimens which I referred to Sharp's species.

Proterhinus subangularis Perkins.

Four specimens from *Straussia* in the Iao Valley, 15.i.26 (Swezey).

Proterhinus punctipennis Sharp.

Eight specimens at Olinda, 13.v.26, and one 27.ii.26 on koa (Swezey) also one on *Rubus* on the latter date, probably accidentally present on this plant, since it is specially attached to *Acacia koa*. Specimens very similar to *punctipennis* and found on other trees were possibly referred by me to this species in my earlier collections, but more probably belong to others.

Proterhinus lecontei Sharp.

A single ♂ on *Rubus* at Olinda, 27.ii.26 (Swezey) was probably accidentally present on that plant, as I found the species abundantly, but only on one kind of tree or bush, the name of which I forget, but much *Rubus* grew with it.

Proterhinus sharpi Perkins.

Two specimens from the Keanae Gap on Haleakala, 7.viii.19 (C. N. Forbes) without note of food plant and one at Olinda,

13.v.26 (Swezey) on *Cibotium*. The original specimens were taken from a very different fern, and not from the tree-ferns.

Proterhinus deceptor Perkins.

Many specimens were taken by Swezey from the introduced weed, pamakani, in March, 1924, in the Iao Valley and a few from Waikapu. In the former locality it occurred 15.i.26 on *Bobea*, five specimens, and two on *Pipturus*; one on *Cyrtandra*, Waihee, 1.iii.26.

Immigrant Records for 1927

BY THE EDITOR

The following immigrant insects are recorded in this issue for the first time as occurring in Hawaii. Probably the most of them have been present for some time in the Islands, but have escaped notice until recently and are now recorded for the first time. For details of records, etc., refer to the pages given:

	PAGE
<i>Melophagus ovinus</i> Linn. (Diptera).....	4
<i>Lyctoxylon japonum</i> Reitter (Col.).....	6
<i>Fiorinia nephelii</i> Mask. (Hom.).....	11
<i>Phthorimaea lycopersicella</i> Busck (Lep.).....	17, 171, 177
<i>Milichiella</i> sp. (Diptera).....	29
<i>Menopon gallinae</i> (Linn.) (Mall.).....	41
<i>Menopon stamineum</i> Nitzsch (Mall.).....	41
<i>Menopon phaeastomum</i> Nitzsch (Mall.).....	41
<i>Goniocotes hologaster</i> Nitzsch (Mall.).....	42
<i>Goniocotes gigas</i> Tasch. (Mall.).....	42
<i>Lipeurus gallipavonis</i> Geoffroy (Mall.).....	42
<i>Lipeurus heterographus</i> Nitzsch (Mall.).....	42
<i>Lipeurus caponis</i> (Linn.) (Mall.).....	42
<i>Aeolothrips fasciatus</i> (Linn.) (Thysanop.).....	105, 131
<i>Chirothrips mexicanus</i> Crawf. (Thysanop.).....	106, 132
<i>Anaphothrips orchidii</i> (Moulton) (Thysanop.).....	107, 132
<i>Thrips abdominalis</i> Crawf. (Thysanop.).....	110, 132
<i>Thrips tabaci</i> Lind. (Thysanop.).....	111, 132
<i>Haplothrips gowdeyi</i> (Franklin) (Thysanop.).....	125, 134

Some of the new species of thrips described by Moulton, pages 105 to 134, and occurring on lowland plants may also be immigrants, but are not listed here.